March 19 - 21, 2013 Federal Insecticide, Fungicide and Rodenticide Act Scientific Advisory Panel Meeting

Draft Product Performance Data Needs Assessment for Pesticide Products Claiming Efficacy Against Invertebrate Pests

FQPA Science Review Board Members
Biographical Sketches

Charles S. Apperson, Ph.D. - Dr. Apperson is presently a William Neal Reynolds Distinguished Professor Emeritus in the Department of Entomology at North Carolina State University in Raleigh, North Carolina. Dr. Apperson received his M.S. and Ph.D. degrees in Entomology from the University of California, Riverside. He is a public health entomologist and vector biologist with 35+ years of experience in researching the ecology, behavior and control of blood feeding arthropods, principally mosquitoes and ticks. As an entomologist with extension responsibilities, Dr. Apperson interacted with mosquito control and household pest control personnel and advised homeowners on best management practices for the control of pest arthropods. He is knowledgeable of the modes of action and environmental risks posed by currently used public health insecticides.

Awinash Bhatkar, Ph.D. - Dr. Bhatkar currently works as a Coordinator for Biosecurity and Agriculture Resource Management at the Texas Department of Agriculture at Austin, Texas. He is also State Plant Regulatory Officer (SPRO) for federal regulatory programs, and directs phytosanitary, quarantine, ecological risk assessment, and water quality programs. He completed his Ph.D. at the University of Florida, Gainesville, and M.Sc. at the Indian Agricultural Research Institute, New Delhi, India. He has over 20 years of regulatory and training experience related to pest risk assessment and management, and pesticide risk evaluation and mitigation issues. He served as a professor, associate professor and research scientist at universities in Texas, Mexico, Germany and India. He conducted research and provided graduate and technical advise in ecology, pest management, pesticide bioassays, formulations, delivery systems, and radioisotopes in physiology, ecology and behavior of organisms. He is a member of the Entomological Society of America, a Board Certified Entomologist (Pesticide Development, Analysis & Toxicology, Medical and Veterinary Entomology, Urban & Industrial Entomology, Regulatory Entomology), and a Board Certified Forensic Examiner, and held memberships of the American Association for the Advancement of Science, Sigma-Xi Scientific Research, Society for Environmental Chemistry and Toxicology, Council for Agricultural Science and Technology, and Society for Risk Analysis.

Naresh Duggal, M.Sc. - Mr. Duggal is currently managing the County of Santa Clara Integrated Pest Management (IPM) and Pesticide Use Ordinance. He is a Board Certified Entomologist, Certified Quality Control Sanitarian and Bay-Friendly Certified Landscaping professional, an industry veteran with 27 years of work experience in the post harvest, non-crop production agriculture, urban and industrial pest management, designing and implementing IPM programs throughout the USA in New York, Connecticut, Massachusetts, New Jersey, Pennsylvania, County of Santa Clara (California), Province of Ontario (Canada), India, and special IPM projects throughout North America. His work experience coupled with academic understanding

in land, aquatic and structural pest management has allowed him to influence and tailor site specific IPM programs, working closely with project service groups, end users and beneficiaries in the field to ensure work is carried out successfully. His experience includes working with industry pioneers & champions in developing industry's first ISO 9000 (Global Quality System) certified quality standards for structural pest management program in North America. The County's IPM Program under his leadership has accomplished several noteworthy milestones and also received distinguished awards including California IPM Innovator Award, Green California Leadership Award and International IPM Recognition Award. Santa Clara County's IPM Program is recognized for increasing economic benefits of IPM activities, reducing potential human health risks through IPM and minimizing environmental impacts of pest management practices. He has written several papers published in international proceedings on urban pests, and also delivered presentations on a wide variety of pest management and related topics such as urban and industrial entomology, integrated pest management, best management practices, structural sanitation, housekeeping & maintenance, food safety, human & environmental health.

Kendra Lawrence, Ph.D., BCE - Dr. Kendra Lawrence received her Bachelor of Arts degree in College Scholars with an emphasis in Ecology from the University of Tennessee in 1995 and completed her Ph.D. in Entomology at the University of Kentucky in 2000. Dr. Lawrence spent the next three years as a collateral faculty member at the University of Wisconsin, Oshkosh and the Virginia Commonwealth University before accepting a direct commission as a Captain in the U.S. Army. She served 9 years as an Army entomologist with assignments in Germany, at the Walter Reed Army Institute of Research, the Armed Forces Pest Management Board, as well as a tour in Iraq. Dr. Lawrence's Ph.D. training focused on understanding the relationships between spiders and their prey in forest-floor detritus communities. It was her entry into the Army that facilitated her involvement in working with vectors and vector-borne diseases. This experience expanded from applying methodologies in an operational environment to involvement in entomology and pest management research, development, and policy work for the US Army and Department of Defense (DoD). She presently works as a contractor and senior scientific consultant for the US Army Medical Materiel Development Activity. She works on the development and acquisition of medical entomology materiel solutions and products for the DoD and is helping to bridge the gap between research and development (R&D) and advanced development within the larger DoD entomology community.

Timothy Lysyk, Ph.D. - Dr. Lysyk is Principal Research Scientist at Agriculture and Agri-Foods Canada Lethbridge Research Center. He received his B.Sc. (Hons.) in Zoology from the University of Alberta in 1980 and completed an M. S. in Entomology at South Dakota State University working on face flies attacking cattle. He earned his Ph.D. in Medical-Veterinary Entomology with a minor in Statistics from North Carolina State University in 1985 working on house flies in poultry systems. In 1985, he returned to Canada to work as a research scientist with the Canadian Forestry Service, and conducted research on the population dynamics of spruce budworm and jack pine budworm. In 1989, he transferred to western Canada and Agriculture Canada to conduct research on population ecology and biological control of horn flies and stable flies. Over the years, his research program adapted to shifting needs and priorities, and his main interests include 1) the occurrence, potential transmission, and prevention of arthropod-borne diseases, 2) ecology, population dynamics and pest management of

arthropods of medical-veterinary importance, 3) development of population models and sampling methods for veterinary arthropods, and 4) fly – microbe interactions including vectorial capacity and microbial control. His study on the potential for Bluetongue virus transmission in western Canada led to rationalization of import regulations for U.S. cattle. Dr. Lysyk has been an Adjunct Professor in the Department of Biological Sciences at University of Lethbridge since 1994 and taught several courses in ecology and entomology as well as medical-veterinary entomology and biostatistics. He is also an adjunct professor in the Faculty of Veterinary Medicine, University of Calgary. In 1995, he was awarded the Entomological Society of Canada's C. Gordon Hewitt Award for outstanding achievement in Entomology by a person under 40. In 2010, he was awarded the Livestock Insect Workers' Conference Lifetime Achievement Award in Veterinary Entomology.

Janet McAllister, PhD, BCE - Dr. McAllister is a Board Certified Medical Entomologist. She obtained her undergraduate and masters degrees from Louisiana State University (LSU) where she conducted research on the dispersal of Ps.? colombia from ricefields. Her Ph.D. was earned at the University of Arkansas where she worked on the reservoir competence of lesser meal worms. Dr. McAllister worked on malaria vectors during a brief post doctoral assignment at LSU then moved as a visiting fellow to the Division of Parasitic Diseases at the Centers for Disease Control (CDC) in Atlanta. While there she co-developed several tests for detecting insecticide resistance in vector insects. She then worked as the Senior Research Entomologist for the New Orleans Mosquito and Termite Control District where she was in charge of research on both termites and mosquitoes. She returned to the CDC, this time in Ft. Collins, CO with the Division of Vector-Borne Infectious Diseases. She conducts field and laboratory research on vector control and insecticide resistance in important vectors of West Nile virus. In addition, Dr. McAllister serves as the subject matter expert and point of contact for vector control after disasters. Dr. McAllister is active in the American Mosquito Control Association and Entomological Society of America serving on several committees in these associations. She has served as the President of the American Mosquito Control Association, West Central Mosquito and Vector Control Association, and Louisiana Mosquito Control Association.

Weste L. A. Osbrink, Ph.D. - Dr. Osbrink is a Research Entomologist formally educated at the University California, Riverside where he received a Ph.D. in Entomology (1984, cat flea) and California State University, Los Angeles, where he received a M.S. in Biology (1980, house dust mite) and a B.S. in Biology (1977). He was a post-doctoral associate in the areas of fleas, vegetable crops, elevated atmospheric carbon dioxide, and termites. He has 10 years experience as a Senior Research Scientist at S.C. Johnson and Son in Racine, WI developing products for fleas, cockroaches, and ants. Dr. Osbrink transitioned into the US Department of Agriculture-Agricultural Research Service (USDA-ARS), researching the biology and control of the Formosan termite for 15 years, and is currently stationed at the USDA-ARS Knipling-Bushland U.S. Livestock Insects Research Laboratory in Kerrville, TX investigating effects of various systemic chemistries on livestock pests and the control of cattle fever ticks in the permanent quarantine zone along the Mexican-Texas border.

Gale E. Ridge, Ph.D. - Dr. Ridge is a systematist with expertise in phylogenetics, evolution, morphology, behavior, and the ecology of insects. She received a Ph.D. in Insect Morphology, Systematics and Taxonomy from the University of Connecticut and a M.S. degree in Insect Morphology and Ecology from the Southern Connecticut State University. Her primary research is with the internal morphology and phylogeny of Heteroptera and more particular, the family Cimicidae which include human feeding bed bugs. Her current research is the use of entomopathogenic fungi against bed bugs, reproduction and behavior, and the insect's endosymbionts. Dr. Ridge has taken a leadership role in educating, organizing, and empowering housing interests, health departments, pest management professionals, and citizens in the management of the common bed bug, *Cimex lectularius* L. in the State of Connecticut, through conferences, speeches, and the formation of the Connecticut Coalition Against Bed Bugs, including an informational bed bug webpage located on The Connecticut Agricultural Experiment Station website and a list serve. Dr. Ridge overseas the daily activities of the insect inquiry office at The Connecticut Agricultural Experiment Station which receives thousands of inquiries each year. Outreach by her office includes the authorship of numerous fact sheets, written articles, participation in workshops, lectures, and speeches presented at national, regional, and state conferences and meetings.

Peter Smits, Ph.D. - Dr. Smits is currently assessor for efficacy of biocides with the Dutch Board for the Authorisation of Plant Protection Products and Biocides in Wageningen, Netherlands. After finishing his secondary school he went to study biology at the University of Leiden in 1975. During his study he specialized in ecology of insects and studied the behaviour of the biocontrol agent *Trichogramma evanescens*. In 1982 he obtained his M. Sc. degree at the University of Leiden. In the same year he started his Ph.D. at Wageningen University on the development of a baculovirus as a biological control agent of the beet armyworm *Spodoptera exigua* that resulted in a thesis and a Ph.D. degree in 1987. In 1985 he got a permanent position at the Research Institute for Plant Protection in Wageningen as a researcher on the use of insect pathogens for insect control. Later he became teamleader and then head of the Department of Entomology. In this period he and his group developed several biological control methods for control of caterpillars, crane fly larvae and grass grubs based on viruses, *Bacillus thuringiensis* and insect pathogenic nematodes. He also became chairman of the International Organisation for Biological Control /West Palearctic Regional Section working group on insect pathogens and convened several international meetings in Europe. A long list of publications was published and the baculovirus of *Spodoptera* was registered as the first viral biopesticide in the Netherlands. In 2001 he began to work on rural development and nature restoration in the Netherlands. In 2012 he returned to the field of crop protection and joined the Dutch Board for the Authorisation of Plant Protection Products and Biocides (Ctgb) and cooperates in the development of processes for developing new guidelines for biocides and insecticides that are used throughout Europe. In his current position, Dr. Smits has been evaluating, amongst others, several products based on DEET for mosquito control, products based on pyrethroids with both a knockdown effect as a repellency effect and on several other products that control mosquitoes, flies, cloth moths and cockroaches.